

**CLAIMS**

What is claimed is:

1. A method for managing resources within a distributed  
5 data processing system, the method comprising the steps  
of:

receiving a lease request for a resource;

10 in response to receiving the lease request, securing  
leases on a logical circuit of resources through the  
distributed data processing system; and

in response to securing leases on a logical circuit  
of resources, sending a lease grant for the resource.

2. The method of claim 1, wherein the step of receiving  
15 a lease request for a resource further comprises:

receiving, at a first resource manager, a request  
from a resource requester to lease a first requested  
resource for a requested lease period.

20 3. The method of claim 2, wherein the step of securing  
a logical circuit of resources further comprises:

determining a data path through the distributed data  
processing system between the resource requester and the  
requested resource;

25 requesting, by the first resource manager, a lease  
from a second resource manager for a second requested  
resource along the data path, wherein use of the first  
requested resource requires use of the second requested  
resource; and

30 receiving, at the first resource manager, a first  
granted lease for the second requested resource from the  
second resource manager.

4. The method of claim 3, wherein the step of sending a lease grant for the resource further comprises:

5 in response to receiving the first granted lease for the second requested resource, sending a second granted lease to the resource requester by the first resource manager.

10 5. The method of claim 4 further comprising:  
detecting an oversubscribed condition on the first requested resource; and

15 in response to the detected oversubscribed condition, reducing a requested lease period in the second granted lease.

6. The method of claim 3, wherein the step of determining a data path through the distributed data processing system further comprises:

20 retrieving a predetermined data path that has been previously stored after a dynamic discovery process of devices within the distributed data processing system.

7. The method of claim 1 further comprising:

25 detecting an oversubscribed condition on the resource; and

reducing a lease period for the granted lease.

8. The method of claim 1 further comprising:

30 detecting an error condition; and

reducing a lease period for the lease grant.

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9. An apparatus for managing resources within a distributed data processing system, the apparatus comprising:

first receiving means for receiving a lease request  
5 for a resource;

securing means for securing, in response to receiving the lease request, leases on a logical circuit of resources through the distributed data processing system; and

10 sending means for sending, in response to securing leases on a logical circuit of resources, a lease grant for the resource.

10. The apparatus of claim 9, wherein the first  
15 receiving means further comprises:

second receiving means for receiving, at a first resource manager, a request from a resource requester to lease a first requested resource for a requested lease period.

20 11. The apparatus of claim 10, wherein the securing means further comprises:

determining means for determining a data path through the distributed data processing system between  
25 the resource requester and the requested resource;

requesting means for requesting, by the first resource manager, a lease from a second resource manager for a second requested resource along the data path, wherein use of the first requested resource requires use  
30 of the second requested resource; and

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third receiving means for receiving, at the first resource manager, a first granted lease for the second requested resource from the second resource manager.

- 5 12. The apparatus of claim 11, wherein the first sending means further comprises:

second sending means for sending, in response to receiving the first granted lease for the second requested resource, a second granted lease to the  
10 resource requester by the first resource manager.

13. The apparatus of claim 12 further comprising:

first detecting means for detecting an  
oversubscribed condition on the first requested resource;  
15 and

first reducing means for reducing in response to the detected oversubscribed condition, a requested lease period in the second granted lease.

- 20 14. The apparatus of claim 11, wherein the determining means further comprises:

retrieving means for retrieving a predetermined data path that has been previously stored after a dynamic discovery process of devices within the distributed data  
25 processing system.

15. The apparatus of claim 9 further comprising:

second detecting means for detecting an  
oversubscribed condition on the resource; and  
30 second reducing means for reducing a lease period for the granted lease.

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16. The apparatus of claim 9 further comprising:

third detecting means for detecting an error condition; and

third reducing means for reducing a lease period for the lease grant.

17. A computer program product on a computer readable medium for use in a data processing system for managing resources within the distributed data processing system, the computer program product comprising:

first instructions for receiving a lease request for a resource;

instructions for securing, in response to receiving the lease request, leases on a logical circuit of resources through the distributed data processing system; and

first instructions for sending, in response to securing leases on a logical circuit of resources, a lease grant for the resource.

18. The computer program product of claim 17, wherein the first instructions for receiving further comprises:

second instructions for receiving, at a first resource manager, a request from a resource requester to lease a first requested resource for a requested lease period.

19. The computer program product of claim 18, wherein the instructions for securing further comprises:

instructions for determining a data path through the distributed data processing system between the resource requester and the requested resource;

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instructions for requesting, by the first resource manager, a lease from a second resource manager for a second requested resource along the data path, wherein use of the first requested resource requires use of the second requested resource; and

third instructions for receiving, at the first resource manager, a first granted lease for the second requested resource from the second resource manager.

20. The computer program product of claim 19, wherein the first instructions for sending further comprises:

second instructions for sending, in response to receiving the first granted lease for the second requested resource, a second granted lease to the resource requester by the first resource manager.

21. The computer program product of claim 20 further comprising:

first instructions for detecting an oversubscribed condition on the first requested resource; and  
first instructions for reducing in response to the detected oversubscribed condition, a requested lease period in the second granted lease.

22. The computer program product of claim 19, wherein the instructions for determining further comprises:

instructions for retrieving a predetermined data path that has been previously stored after a dynamic discovery process of devices within the distributed data processing system.

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23. The computer program product of claim 17 further comprising:

second instructions for detecting an oversubscribed condition on the resource; and

5 second instructions for reducing a lease period for the granted lease.

24. The computer program product of claim 17 further comprising:

10 third instructions for detecting an error condition; and

third instructions for reducing a lease period for the lease grant.

15 25. A network comprising:

first receiving means for receiving a lease request for a resource;

20 securing means for securing, in response to receiving the lease request, leases on a logical circuit of resources through the distributed data processing system; and

sending means for sending, in response to securing leases on a logical circuit of resources, a lease grant for the resource.

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26. The network of claim 25, wherein the first receiving means further comprises:

30 second receiving means for receiving, at a first resource manager, a request from a resource requester to lease a first requested resource for a requested lease period.

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27. The network of claim 26, wherein the securing means further comprises:

determining means for determining a data path through the distributed data processing system between the resource requester and the requested resource;

requesting means for requesting, by the first resource manager, a lease from a second resource manager for a second requested resource along the data path, wherein use of the first requested resource requires use of the second requested resource; and

third receiving means for receiving, at the first resource manager, a first granted lease for the second requested resource from the second resource manager.

28. The network of claim 27, wherein the first sending means further comprises:

second sending means for sending, in response to receiving the first granted lease for the second requested resource, a second granted lease to the resource requester by the first resource manager.

29. The network of claim 28 further comprising:

first detecting means for detecting an oversubscribed condition on the first requested resource; and

first reducing means for reducing in response to the detected oversubscribed condition, a requested lease period in the second granted lease.



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third detecting means for detecting an error condition; and

third reducing means for reducing a lease period for the lease grant.